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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|-----------------------------|------------------|
| 10/065,498 | 10/24/2002 | Haren S. Gandhi | FCHM 0106 PUS / 201-0555 | 9078 |
| 28395 | 7590 | 08/16/2005 | EXAMINER | |
| BROOKS KUSHMAN P.C./FGTL 1000 TOWN CENTER 22ND FLOOR SOUTHFIELD, MI 48075-1238 | | | JOHNSON, CHRISTINA ANN | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 1725 | |

DATE MAILED: 08/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/065,498

Applicant(s)

GANDHI ET AL.

Examiner

Christina Johnson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 June 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 and 17-21 is/are pending in the application.
- 4a) Of the above claim(s) 17 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 21 is/are allowed.
- 6) ☒ Claim(s) 1-7, 11-14 and 16-20 is/are rejected.
- 7) ☒ Claim(s) 8-10 and 15 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on June 13, 2005 has been entered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-7, 11-14, 16, and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 0 941 757.

EP 0 941 757 discloses a catalyst composition useful for the purification of nitrogen oxides. The catalyst composition comprises first and second powders (page 2, lines 31). The first powder comprises a porous carrier and at least one noble metal loaded on the porous carrier (page 2, lines 31-32). The noble metal is selected from

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platinum, palladium, and rhodium, with combinations of palladium and rhodium being preferred (page 2, lines 54-56). The noble metal material is carried on alumina, preferably combined with an additive such as cerium, barium, and zirconia (page 3, lines 5-20). The amount of the noble metal is from 0.1-10 g/L (page 3, lines 1-8).

The second powder comprises a first double oxide having the general formula $(Ln_{1-\alpha}A_{\alpha})_{1-\beta}BO_{\delta}$ where α is a number that is greater than 0 and less than 1, β is a number that is greater than 0 and less than 1, δ is a number that is greater than 0, Ln is at least one first element selected from the group consisting of La, Ce, Nd, and Sm, A is at least one second element selected from the group consisting of Mg, Ca, Sr, Ba, Na, K, and Cs, and B is at least one third element selected from the group consisting of Fe, Co, Ni, and Mn (page 2, lines 33-41).

The difference between the reference and the claims is that the reference does not teach specifically that 1-60% of the cobalt B cation sites are substituted with a metal selected from the group consisting of platinum, rhodium, iron, copper, and manganese, as required by claim 1. However, the reference teaches that at least one third element may be selected, which suggests that more than one element may be chosen.

Therefore, it is the position of the examiner that the reference teaches a small genus which places the claimed species within the possession of the public as in *In re Schaumann*, 572 F.2d 312, 197 USPQ 5 (CCPA1978), and as such, the claimed species would have been obvious to one having ordinary skill.

The limitations in claim 1 and 18, i.e. "optimizing storage of NOx" and "optimizing the reduction of hydrocarbon, NOx, and CO emissions under stoichiometric air/fuel

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ratios," are noted by the examiner. These limitations have been regarded as statements of intended use. While intended use recitations cannot entirely be disregarded, in composition and article claims, the intended use must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention over the prior art. *In re Casey*, 370 USPQ 235 and *In re Otto*, 312 USPQ 458. It is the position of the examiner that the prior art structure is capable of performing the intended use and therefore meets the instant claims.

The process limitations in claims 2-3 and 13 are noted. However, when the examiner has found a substantially similar product as in the applied prior art, the burden of proof is shifted to applicant to establish that their product is patentably distinct and not the examiner to show the same process of making. *In re Brown*, 173 USPQ 685 and *In re Fessmann*, 180 USPQ 324.

The catalyst is loaded on a ceramic honeycomb (page 5, line 5) for use in a catalytic converter which is considered to meet "coated directly onto the exhaust emitting component" required by claim 20. The catalyst arrangement taught by the reference (page 4, line 52 – page 5, line 27) meets the arrangement required by claim 16.

With respect to claims 4-7, a further difference between the reference and the claims is that the reference does not disclose the ratio of palladium and rhodium or the specific amount of palladium alone relative to rhodium used (when a combination of metals are used). However, the reference establishes that the noble metal of the first powder is a result effective variable. Refer to page 2, line 56 – page 3, line 5. It would

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have been obvious to one having ordinary skill in the art at the time the invention was made to choose the instantly claimed ranges through process optimization, since it has been held that there the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. See *In re Boesch*, 205 USPQ 215. One would have been motivated to do so in order to obtain the best results from the catalyst.

With respect to claims 12 and 14, a further difference between the reference and the claims is that the reference does not disclose the amount of barium oxide or Ce-Zr particles contained in the support material. However, the reference establishes that the presence of these materials is a result effective variable. Refer to page 3, lines 7-16. It would have been obvious to one having ordinary skill in the art at the time the invention was made to choose the instantly claimed ranges through process optimization, since it has been held that there the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. See *In re Boesch*, 205 USPQ 215. One would have been motivated to do so in order to improve the properties of heat resistance properties of the support.

Allowable Subject Matter

4. Claims 8-10 and 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
5. Claim 21 is allowed.

Response to Arguments

6. Applicant's arguments filed June 13, 2005 have been fully considered but they are not persuasive.

Applicant argues that the EP reference does not teach a configuration in which a catalyst comprising a catalyst mixture PM-Rh is place downstream of a catalyst having a Perovskite type ABO₃ crystal structure as required by the independent claims. However, the examiner disagrees. With reference the Figure in the EP reference, the reference discloses a first powder (considered to meet the "second catalyst" instantly claimed) and a second powder (considered to meet the "first catalyst" instantly claimed), wherein the first and second powder are closely coupled and the second powder is in a forward position and the first powder is in a downstream position. Therefore, the reference discloses the configuration claimed herein.

Applicant further argues that the second catalyst is a completely different catalyst than those taught in the present invention, i.e. a sulfur oxide absorbing catalyst. However, applicant is reminded that the instant claims are directed towards a product and not a process of using the product. In this case, the EP reference discloses a composition comprising two catalysts which are structurally identical to the composition claimed. Applicant has failed to distinguish the claimed structure over the structure taught by the reference or demonstrate that the different functions claimed result in a different structure.


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Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christina Johnson whose telephone number is (571) 272-1176. The examiner can normally be reached on Monday-Friday, 7:30-5, with Alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on (571) 272-1171. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Christina Johnson
Patent Examiner
Art Unit 1725

8/13/05

CAJ
August 13, 2005